

120 12-08-03

EXPRESS MAILING CERTIFICATE

EXPRESS MAIL No.: EV 304 054 974 US

Deposited: December 5, 2003

I hereby certify that this correspondence is being deposited with the United States Postal Service Express mail under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450

*Ruth Montalvo*  
Ruth Montalvo

In the event that this paper is late filed and a necessary Petition for an Extension of Time is not concurrently filed herewith, please consider this as a Petition for the requisite extension of time, and to the extent not tendered by check attached hereto, authorization to charge the extension fee, or any other fee required in connection with this paper, to Deposit Account No. 50-1529.

Itochu P-1/500921.20001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant: Jeffrey F. KRIZAN

Group Art Unit: 1755

Serial No.: 09/975,806

Examiner: Shalie Manlove

Filing Date: October 11, 2001

Customer No.: 026418

For: TITANIUM DIOXIDE PIGMENT COMPOSITION

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Sir:

This Brief is submitted in support of the Appeal to the Board of Appeals from the final Office Action dated November 5, 2002.

12/10/2003 DTESSEM1 00000122 09975806

01 FC:2402

165.00 0P

RECEIVED  
DEC 11 2003  
TC 1700



1. REAL PARTY IN INTEREST

The real party in interest in the above-identified application is the Inventor, Jeffrey F. Krizan of 133 Cobbler Lane, Southbury, CT 06488.

2. RELATED APPEALS AND INTERFERENCES

No interference is known to Appellant, or the Appellant's legal representative, which will directly affect, be directly affected by or have a bearing on the Board's decision in this Appeal.

3. STATUS OF ALL CLAIMS

The above-identified application was filed on October 11, 2001, and was filed with original claims 1-22 with claim 1 being the sole independent claim. In an amendment filed August 15, 2002, original claim 7 was cancelled, claims 1, 8, 9, 10, 12, 15 and 19 were amended and new claim 23 was added.

4. STATUS OF AMENDMENTS

All Amendments have been entered.

## 5. SUMMARY OF THE INVENTION

TiO<sub>2</sub> is a white pigment having a high index of refraction and excellent light diffusing properties. It is generally found in two different crystalline forms, referred to as anatase and rutile. Both forms may be used as an opacifying agent for a variety of substrates. TiO<sub>2</sub> is problematic in that it is relatively expensive and exhibits the propensity to undergo autoflocculation, i.e., agglomeration both in the dry and wet states.

Barium sulfate is a white water insoluble compound which has also been used in pigment compositions. It does not, however, exhibit significant opacification properties on its own. For purposes of this Appeal Brief, the terms "opacity" and "opacifier" relate to the ability or property of being or rendering a substrate impervious to light rays so that it is not transparent.

The present inventor has discovered that the agglomeration difficulties with TiO<sub>2</sub> can be decreased by the use of a pre-preared composition composed of titanium dioxide and barium sulfate wherein the amount of barium sulfate is sufficient to prevent the agglomeration of the TiO<sub>2</sub>. The inventor has also discovered that the addition of this amount of barium sulfate does not detract from the opacification properties of the TiO<sub>2</sub>.

## 6. STATEMENT OF ISSUES PRESENTED

1. Whether Claims 1, 3, 4 and 10 are anticipated by Kreth et al U.S. Patent No. 4,885,034.
2. Whether Claims 8, 11, 13, 16 and 18-22 are rendered obvious under 35 U.S.C. 103(a) over Kreth et al '034.

3. Whether Claims 5, 6, 13-15 and 17 are unpatentable under 35 U.S.C. 103(a) over the combination of Kreth '034 taken further with Dietz, U.S. Patent 3,549,396.
4. Whether Claims 11, 12 and 17 are unpatentable under 35 U.S.C. 103(a) in view of the Kreth '034 patent taken further in view of Alessandroni, U.S. Patent 2,212,629.
5. Whether Claims 1-5, 9-10 and 23 are unpatentable under 35 U.S.C. 103(a) over Kreth '034 taken with Alessandroni '269.

It is noted that in the Final Office Action mailed November 5, 2002, several rejections under 35 U.S.C. were raised. However, accompanying this Brief is an Amendment to the Claims which obviates the formal rejection of Claim 9 as set forth in the Final Office Action.

#### 7. GROUPING OF CLAIMS

The claims stand or fall together.

#### 8. ARGUMENT

The Examiner has, in each case, relied on the Kreth et al '034 patent as the primary reference. The examiner asserts that Kreth discloses a method for making a composite titanium dioxide pigment with barium sulfate and further that Kreth teaches the compositional ranges required by the present claim. However, it is submitted that this is a mischaracterization of Kreth with respect to its relevance to the present claims. More particularly, Kreth is directed to a

method for producing a composite  $\text{TiO}_2$  pigment. In particular, the pigment is prepared by taking a suspension of metatitanic acid which contains free and combined sulfuric acid and has been purified to remove chromophoric elements. This suspension is neutralized by the addition of calcium oxide or barium oxide in quantities which are stoichiometric with respect to the total sulfate. The calcium sulfate or barium sulfate is precipitated in an intimate mixture with the metatitanic acid and the coprecipitate is separated and dried. Consequently, this particular combination as produced by this method does not nearly contain barium sulfate and titanium oxide. Rather, because of the method used, mixture is obtained which constitutes titanium dioxide and barium sulfate obtained by a chemical process resulting in a particular intimate mixture of the two materials having certain particle size ranges. This does not constitute presently claimed which requires only the presence of titanium dioxide and barium sulfate in an amount effective to stabilize and avoid agglomeration of the  $\text{TiO}_2$ . The '034 patent discloses a relatively large number of materials which can be mixed with the titanium oxide hydrate, for example, calcium oxide, calcium hydroxide, calcium carbonate, barium oxide, barium hydroxide, barium carbonate as well as mixtures thereof. The patent further discloses a rather complicated process for producing the resulting composite. Certainly, there is nothing in this reference which suggests that barium sulfate would have any anti-agglomeration or stabilizing effect on the  $\text{TiO}_2$ . In addition, the reference requires this specific process disclosed therein to produce the disclosed composite so that specific particle size ranges and intimate mixture of the materials can be obtained. It is submitted that Kreth does not does not anticipate the present invention as set forth in the claims and this rejection should not be sustained.

The Alessandrini and Dietz, references add nothing to make Kreth more relevant to the invention as claimed. Consequently, the rejection of these claims as being

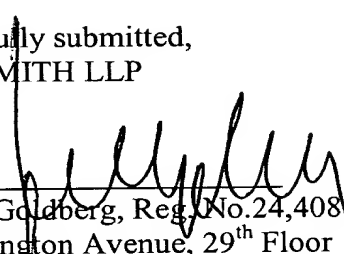
obvious based on the various combinations of the cited references is untenable and should be also not be sustained.

#### 9. CONCLUSION

Accordingly it is submitted that the Examiner's rejections of the pending claims should not be sustained.

JEG/dej  
December 5, 2003

Respectfully submitted,  
REED SMITH LLP

By:   
Jules E. Goldberg, Reg. No. 24,408  
599 Lexington Avenue, 29<sup>th</sup> Floor  
New York, NY 10022  
Tel.: (212) 521-5403